

**REMARKS**

This Amendment is responsive to the office action mailed December 13, 2005 in connection with the above-identified patent application. It addresses each of the rejections and objections posed by the examiner accordingly, reconsideration is respectfully requested.

Additionally, the Amendment is filed in regard to the Examiner Interview on April 11, 2006. Applicant appreciated the opportunity to discuss the teachings in the prior art Lizotte relative to Applicant's claims.

The Examiner has rejected claims 1, 3, 5-8, 23, 24, 26-28, and 30-34 under 35 U.S.C. 102(e) as anticipated by Lizotte et al.

Lizotte describes a system for generating, marking, and reading identification indicia. The system includes an illuminator (94) that is a light source radiating from the circumference of a ring. Rotational mechanisms and an external illuminator are used to control the angle of incidence of an illumination plane for viewing the indicia. (paragraph 71, Fig. 8). Additionally, the system includes a tip for etching indicia into an object. (paragraph 60).

Applicant's claim 1 recites particularly:

a first ring light source arranged in a perimeter of a predetermined shape communicating with a first light pipe having a cross-section with the predetermined shape, the *first light pipe defining an inner lumen through which the sensor views the subject and*

*the light pipe including a tip adapted to project a low-angle dark field illumination pattern on the subject; and*

*a controller that selectively controls predetermined portions of the first ring light source to project a variable light around the perimeter.*

Applicant's illuminator is a self-contained scanner that variously illuminates a subject with light field illumination (high angle) and/or dark field illumination (low angle). As shown (See for example Fig. 3) and the illuminator includes a ring light source in the structure with a perimeter shape that is regular or irregular. This entire ring communicates with the light pipe and that includes a tip that directs dark field light. A "lumen" is commonly defined as "the bore of a tube (as of a hollow needle or catheter)." See *Merriam-Webster's Collegiate® Dictionary, Tenth Edition*, Merriam-Webster, Incorporated 1994. Applicant's description defines a lumen of the light pipe with a diameter WL (Specification Page 7, line 19), thus clearly describing a structure of such definition. The light pipe allows the sensor to view the subject in the optical axis. Additionally, the light pipe includes a tip adapted to project a low-angle dark field illumination , and a controller to control the ring light source to project a variable perimeter of the illuminator. In this manner, the claimed invention provides a highly self-contained unit that is either handheld or fixed-base-mounted, and that integrates illumination and image acquisition (via an image sensor) in a relatively small and manipulable package.

Conversely, no such light pipe with a luminal structure is present or contemplated in Lizotte, which merely provides a light source radiating from the circumference of a

ring surrounding the image area. The only “light pipe” in Lizotte is found in element 94 which is a *separate* illuminator that is not in communication or in line with the image sensor. This leads to a more bulky and clearly non-self-contained unit that diverges for the purpose of applicant’s novel design.

Moreover, applicant’s claimed invention particularly recites a *first light pipe defining an inner lumen through which the sensor views the subject*. Lizotte does not disclose a light pipe--only a light source (illuminator).

For a reference to properly anticipate Applicant’s claimed invention, the reference must teach each and every element with separate objects described in the prior art. One object in the prior art reference cannot teach two elements in Applicant’s claimed invention. In that regard, the light source in Lizotte may only teach one element in Applicant’s claimed invention; therefore the light source cannot teach the ring light source and the light pipe. Accordingly, Lizotte does not teach or disclose a light pipe in a manner that properly anticipates under Section 102.

Furthermore, Applicant's claim further defines a "*tip adapted to project a low-angle dark field illumination pattern on the subject*." The tip in Lizotte is described to etch indicia onto an object. There is no teaching of a "*tip adapted to project a low-angle dark field illumination pattern on the subject*."

Accordingly, claim 1 is not anticipated by Lizotte and is allowable thereover.

Claim 23 recites:

a ring light source arranged in a perimeter of a predetermined shape communicating with a *light pipe having a cross-section with the predetermined shape, the light pipe defining an inner lumen through which the sensor views the subject and the light pipe including a tip adapted to project a high-angle bright field illumination pattern with respect to the subject.*

Again, while the tip is employed for bright field illumination in this claim, Lizotte nowhere shows or describes the ring light source communicating with a light pipe having a cross section of the same predetermined shape and defining the above-described lumen through which the sensor views the subject. In contrast, Lizotte describes a tip used for etching and only a light source. There is no disclosure of a light pipe defining an inner lumen through which the sensor views. This claim is allowable over Lizotte.

Claims 30 recites

a ring light source arranged in a perimeter of a predetermined shape communicating with a light pipe having a cross-section with the predetermined shape, *the light pipe defining an inner lumen through which the sensor views the subject and the light pipe including a tip adapted to project an illumination pattern with respect to the subject; and*

*wherein the illumination pattern covers a reduced area with respect to the field of view whereby an aiming location is highlighted by the illumination pattern.*

Again, Lizotte does not disclose “*the light pipe defining an inner lumen through which the sensor views the subject.*” Additionally, Lizotte does not disclose “*a tip adapted to project an illumination pattern with respect to the subject*” ... “*wherein the*

*illumination pattern covers a reduced area with respect to the field of view whereby an aiming location is highlighted by the illumination pattern.* Lizotte only describes a tip for etching and not for illumination pattern that covers a reduced area with respect to the field of view. Therefore, this claim is allowable over Lizotte.

Claim 34 recites:

a first ring light source arranged in a perimeter of a predetermined shape communicating with a first light pipe having a cross-section with the predetermined shape, the *first light pipe defining an inner lumen through which the sensor views the subject* and the light pipe including *a tip adapted to project a low-angle dark field illumination pattern* on the subject; and

a bright field illuminator located external to the light pipe.

Again Lizotte does not disclose “*the light pipe defining an inner lumen through which the sensor views the subject*” and “*a tip adapted to project a low-angle dark field illumination pattern.*” In contrast, Lizotte describes a tip used for etching and only a light source. There is no disclosure of a light pipe defining an inner lumen through which the sensor views. This claim is allowable over Lizotte

The Examiner rejected claims 2, 4, 11, 14, 25, and 35 over 35 U.S.C. §103 as being unpatentable in view of Lizotte over Li. Li describes a tapered light pipe and a curved reflector to alter the divergence angle of the exiting the curved surface.

Claim 11 recites:

a first ring light source arranged in a perimeter of a predetermined shape communicating with a first light pipe having a cross-section with the predetermined shape, the *first light pipe defining an inner lumen through which the sensor views the subject* and the light pipe including a *tip adapted to project a low-angle dark field illumination pattern* on the subject; and

*a second ring light source coaxial with respect to the first ring light source* and communicating with *a second light pipe coaxial with the first light pipe*, the first light pipe having a tip adapted to project a high-angle bright field illumination pattern with respect to the subject.

This claim is allowable for reasons applicable to claim 1 and moreover, the use of a second light pipe coaxial with the first pipe (including a cross section and lumen as described above) is not present in Lizotte or Li. Li only describes a second light pipe but does not disclose or suggest the second light pipe is coaxial to the first light pipe. The second light pipe in Li is only described as separate system. Therefore, claim 11 should be allowable over Lizotte and Li.

For a combination to be valid under Section 103, the examiner must show that there is some motivation in the art to those of ordinary skill for making this combination. The Federal Circuit has affirmed this requirement in the recently decided *Teleflex, Incorporated and Technology Company v. KSR International Co.* (Docket No. 04-1152, Decided January 6, 2005). In the case of the proposed combination with Li, there simply appears to be no relation between these references. Lizotte does use the word “light

pipe” in their description. Additionally, while Li shows a variety of shapes for light pipes, there is no reason why these shapes would improve, or be applicable to the cursory teachings of the illuminator described in Lizotte. The use for such a geometry, rather, is more clearly taught by applicant's own disclosure. To apply Li to Lizotte, thus, at best implies the use of improper hindsight, having had the benefit of applicant's claimed disclosure. Also, even if combined, these references together would not generate applicant's structure with ring light source and pipe with lumen through which the sensor views, but rather a perpendicularly directed structure that points away from the subject/substrate.

With regards to the proposed combination with Patel, this reference teaches using LEDs or lasers to provide illumination and assist in aiming an imaging system. The combination of Lizotte, Patel and/or Li does not disclose Applicant's claimed invention because Lizotte does not describe the *light pipe defining an inner lumen through which the sensor views the subject and a tip adapted to project either bright light illumination and/or dark light illumination.*

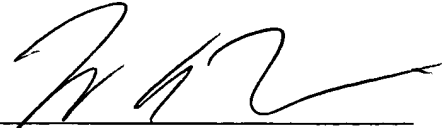
In view of the foregoing, the claims should be in condition for allowance and each of the examiner's rejections has been traversed or addressed. Applicant therefore respectfully requests the examiner to issue a Notice of Allowance at the earliest possible date.

Applicant earnestly solicits the examiner to contact the undersigned by telephone call to advance the prosecution in any respect.

Please charge any additional fee occasioned by this paper to our Deposit Account

No. 03-1237.

Respectfully submitted,



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